UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/911,811	07/24/2001	Ulrich Hetzer	P01,0236	6272

26574 7590 12/21/2005

SCHIFF HARDIN, LLP
PATENT DEPARTMENT
6600 SEARS TOWER
CHICAGO, IL 60606-6473

EXAMINER	
LIANG, LEONARD S	
ART UNIT	**PAPER NUMBER**
2853	

DATE MAILED: 12/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/911,811	HETZER ET AL.	
	Examiner	Art Unit	
	Leonard S. Liang	2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 November 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *24 July 2001* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Specification and Drawings

The lengthy specification and drawings have not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification and drawings. Specifically, the applicant is required to match the reference numbers in the figures and the specification. In the applicant's response to arguments, the applicant has not responded to this objection. The examiner requests the applicant indicate whether the reference numbers in the figures and specification have been matched.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 10, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith et al (US Pat 4791435) in view of Kneezel et al (US Pat 5107276).

Smith et al discloses:

- {claim 1} An arrangement for determining data for a warm-up cycle of an ink jet printhead (figure 2A; abstract); an ink cartridge having an ink jet printhead and a drive unit connected to the ink jet printhead for heating, measuring a temperature of, and driving the ink jet printhead (abstract; column 1, line 35-column 2, line

12); a control unit connected to the drive unit for controlling the drive unit (figure 1, reference 4); s memory accessible by the control unit having a first memory area in which warm-up data are stored in re-writable fashion (figure 2A, reference Data Processing Section; inherently has RAM); a second memory area in which data representing at least two predetermined conditions are stored, the at least two predetermined conditions being selected from the group consisting of temperature-related conditions, history-related conditions and user-related conditions (figure 2A, reference ROM Section; use profile serves as one predetermined condition and temperature serves as second predetermined condition)

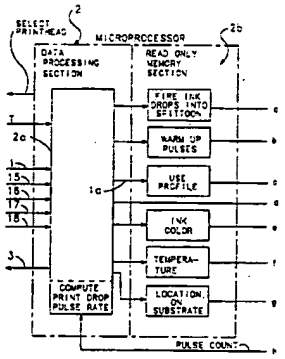

FIG 2A

- {claim 10} wherein the drive unit includes a sensor for measuring the temperature of the ink jet printhead, the sensor generating sensor data representing the temperature, and wherein the control unit is programmed to interrogate the sensor data via the drive unit for determining the warm-up data (abstract; column 1, line 35-column 2, line 12)

- {claim 11} a user interface connected to the control unit for entering a user request for the fast start and a communication link, connected to the control unit, to a remotely disposed telepostage data center which, upon receipt of the user request, transmits a parameter for the fast start, including an identification of the user, to the control unit, and wherein the control unit is programmed to store the parameter in the memory and to employ the user related conditions, corresponding to the user identified by the parameter, as one of the at least two conditions for determining the warm-up data for the fast start (figure 2A; column 1, line 35-column 2, line 37; column 4, lines 16-31)

Smith et al differs from the claimed invention in that it does not disclose:

- {claim 1} a sensor connected to the drive unit for measurement of ambient temperature; and the control unit being programmed to implement at least one measurement of the ambient temperature with the sensor, and to determine warm-up data for a fast start, executed in less than 30 seconds, for a current warm-up cycle dependent upon the ambient temperature and dependent on the at least one predetermined condition

Kneezel et al discloses:

- {claim 1} a sensor connected to the drive unit for measurement of ambient temperature (figure 5A, reference 55; column 8, lines 6-11); the control unit being programmed to implement at least one measurement of the ambient temperature with the sensor, and to determine warm-up data for a fast start, executed in less than 30 seconds, for a current warm-up cycle dependent upon the

ambient temperature and dependent on the at least one predetermined condition (column 8, lines 1-30; column 12, lines 15-31)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the teachings of Kneezel et al into the invention of Smith et al. The motivation for the skilled artisan in doing so is to gain the benefit of maintaining the printhead at a substantially constant temperature.

Claims 2-4, 6-8, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith et al (US Pat 4791435) in view of Kneezel et al (US Pat 5107276), as applied to claim 1 above, and further in view of Bullock et al (US Pat 5812156).

- Smith et al discloses:
  - {claim 2} said memory is a first memory (figure 2A)

Smith et al, as modified, differs from the claimed invention in that it does not disclose:

- {claim 2} a second memory disposed on the ink cartridge, in which identification data uniquely identifying the ink cartridge, and data representing further predetermined conditions, are stored, and wherein the warm-up data stored in the first memory are allocated to the identification data
- {claim 3} wherein the ink cartridge has a serial number uniquely associated therewith, and wherein the identification data includes the serial number
- {claim 4} wherein the ink cartridge has a manufacture identification number uniquely associated therewith, and wherein the identification data includes the manufacture identification number

- {claim 6} wherein the memory is disposed on the ink cartridge and wherein the second memory area additionally contains identification data uniquely identifying the ink cartridge and data representing further predetermined conditions allocated to the identification data, and wherein the control unit is programmed to interrogate the memory to determine the warm-up data employing the further predetermined conditions allocated to the identification data
- {claim 7} wherein the ink cartridge has a serial number uniquely associated therewith, and wherein the identification data includes the serial number
- {claim 8} wherein the ink cartridge has a manufacture identification number uniquely associated therewith, and wherein the identification data includes the manufacturer identification number
- {claim 12} a date clock module connected to the control unit by generating history-related data as the history-related conditions

Bullock et al discloses

- {claim 2} a second memory disposed on the ink cartridge, in which identification data uniquely identifying the ink cartridge, and data representing further predetermined conditions, are stored (figure 1B, reference 28; column 4, lines 14-50)
- {claim 3} wherein the ink cartridge has a serial number uniquely associated therewith, and wherein the identification data includes the serial number (column 4, line 41)

- {claim 4} wherein the ink cartridge has a manufacture identification number uniquely associated therewith, and wherein the identification data includes the manufacture identification number (column 4, line 25)
- {claim 6} wherein the memory is disposed on the ink cartridge and wherein the second memory area additionally contains identification data uniquely identifying the ink cartridge and data representing further predetermined conditions allocated to the identification data (figure 1B, 4, reference 28)
- {claim 7} wherein the ink cartridge has a serial number uniquely associated therewith, and wherein the identification data includes the serial number (column 4, line 41)
- {claim 8} wherein the ink cartridge has a manufacture identification number uniquely associated therewith, and wherein the identification data includes the manufacturer identification number (column 4, line 25)
- {claim 12} a date clock module connected to the control unit by generating history-related data as the history-related conditions (column 4, lines 36-38, 49, 57; column 5, lines 2-4; manufacture day/year and usage time naturally suggests date clock module)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the teachings of Bullock et al into the invention of modified Smith et al. The motivation for the skilled artisan in doing so is to gain the benefit of controlling values, which enable the printer to maintain high quality print media output. The combination naturally suggests the warm-up data stored in the first memory is allocated to the identification data and

the control unit is programmed to interrogate the memory to determine the warm-up data employing the further predetermined conditions allocated to the identification data.

Claims 5 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith et al (US Pat 4791435) in view of Kneezel et al (US Pat 5107276) and Bullock et al (US Pat 5812156), as applied to claims 2-4, 6-8, and 12 above, and further in view of Berson (US Pat 5513563).

Smith et al, as modified, discloses:

- {claims 5 and 9} wherein the ink cartridge has a serial number and a manufacturer identification number uniquely associated therewith (as taught in Bullock et al column 4, lines 25, 41)

Smith et al, as modified, differs from the claimed invention in that it does not disclose:

- {claims 5 and 9} wherein the control unit comprises a security module for forming a code word by encryption of the serial number and the manufacturer identification number, and wherein the control unit stores the code word in the second memory as at least a portion of the identification data

Berson discloses:

- {claims 5 and 9} encrypting serial number (column 3, lines 18-22)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the teachings of Berson into the invention of modified Bullock et al so that serial numbers could be encrypted. The motivation for the skilled artisan in doing so is to gain the benefit of providing verifiable security (column 1, lines 46-47). The

combination naturally suggests encrypting manufacture identification numbers and the control unit storing the code word in the second memory as at least a portion of the identification data.

Response to Arguments

Applicant's arguments filed 11/30/05 have been fully considered but they are not persuasive.

The applicant's argument rests on the contention that "the Smith et al reference is extremely and general and uninformative as to how, or even if, information contained in the read-only memory section 2b of the microprocessor 2 is used by the pulse generator 24a to generate pulses that are supplied to the print head 21 for any purpose, much less during a warm-up cycle...There is no indication whatsoever in the Smith et al reference that anything other than the sensed temperature is used to determine or set the pulse width of the warm-up pulses in the pulse generator 24a. There is not even any indication of how the other information from the read-only memory section 2b is used at all by the pulse generator 24a..."

In response, the examiner would like to direct the applicant's attention to column 4, lines 52-63, where it indicates "In the microprocessor, the indication of printhead temperature is employed in a decision making process to determine the temperature condition of the nozzles, i.e., whether the nozzles are cold or whether the nozzles are overheating and is **used with processor based information as to the location of the nozzles on the substrate, the color of the ink in a particular printhead and the use profile of that printhead, for providing input to the logic array circuit 24 for producing print pulses for firing the nozzles of that particular printhead, to maintain uniformity in the ink drops which are fired"** (emphasis

mine). Therefore, though the figures themselves may seem general and uninformative, when coupled with the specification of Smith et al, it is quite clear that Smith et al indeed discloses firing pulses not only based on the sensed temperature, but also based on some of the parameters in reference 2b, such as ink color and use profile. Further support of this can be found in column 2, lines 8-13. Furthermore, figure 1 clearly shows bus lines going both to and from the logic array 24 to the microprocessor 2. However, only one bus line is labeled with a reference number (reference 23). It's possible that some of the other figures were only meant as illustrations of one such aspect of the invention, which could account for the applicant's misunderstanding of the invention. The examiner hopes that this clarifies the record.

Given that the applicant's other arguments depend on the above argument, the examiner considers all arguments to now be addressed and the previous rejection to be proper.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonard S. Liang whose telephone number is (571) 272-2148. The examiner can normally be reached on 8:30-5 Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

12/15/05
lsl LSL

12/19/05
MANISH S. SHAH
PRIMARY EXAMINER